

# Curriculum Development and Implementation

## **The Kaleidoscope Preschool Arts Enrichment Program: Meeting School Readiness Goals through and Arts Based Curriculum**

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Settlement Music School's Head Start-collaborative preschool, the Kaleidoscope Preschool Arts Enrichment Program, integrates visual art, music and creative movement with an early-learning curriculum. The program uses self-designed, developmental checklists for assessment purposes. Checklists were designed to measure early learning skills as well as skills developed through participation in the arts. This project seeks to examine the checklists further, and combine and compare children's raw scores. Points of comparison are made in the following areas: race, gender, age, curriculum area (homeroom or specific arts studio), domain area (i.e. literacy, socialization, mathematics), and duration of enrollment.

When mapping overall and sub-score averages, a relatively steady pattern of learning and growth can be perceived from Fall to Spring and from first-year attendance to second-year attendance. Some loss of skill was apparent from the spring of Year One to the fall of Year Two. Areas in which this decrease can be found are Early Learning: Language, Writing, Math, Science and Social Learning; and Visual Art: Painting, Printing, Collage, Clay and Aesthetics. Music showed the greatest skill retention over the summer months.

The program appears to bridge both the gender and racial gaps. While girls out-perform boys in nearly all areas, the margin is small. The writing component of the Early Learning checklist showed the largest difference in achievement between the two genders (9.3%). Additionally, boys close the gap significantly, to less than a 5% difference in achievement scores, from the first to second year in the program, a finding contrary to national trends (Denton and West, 2006).

The arts curriculum elements extend preschoolers' sequential, multi-sensory learning and multi-skill development. A correlation analysis on domain areas showed, for the most part, that items within each checklist correlated with one another. No areas of significant correlation (0.7 or higher) were found between the early learning, visual art music and dance checklists in the first year. Reasons for this relate, in part, to the development of the checklists themselves: the initial design focused on skills specifically relevant and unique to the teaching and learning in the early learning homeroom and the arts studios. However, the socialization components of each checklist are similar, since all include items such as ease of transition, willingness to share and openly try new activities and materials. One might expect that these items would be observed at similar levels in all four classrooms. This is not the case. By Year Two, however, existing correlations become stronger, with an average increase of 0.2. Links between the arts skills and early learning skills, including socialization, appear in Year Two. This suggests that, in time, children's developmental and school readiness skills are not only reinforced by their homeroom teacher but by their arts participation as well.

The checklist assessment and arts integrated curriculum can be adapted for use in any high-quality early learning program. Results of this project support the use of and need for curriculum-based assessment, program self-assessment and a multi-sensory approach to meeting educational goals.

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## **Development of a Survey of Instructional Practices in Early Mathematics**

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*(Summary not available)*

## **Developing School Readiness through Science**

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Increased focus on preparing low-income preschool children in multiple domains of school readiness has created the need for strategies that can integrate activities in ways that draw upon children's natural curiosity. For example, Head Start's focus on eight domains of school readiness poses challenges for teachers in their efforts to provide a comprehensive curricular approach that enhances preschool children's development in all domains (U.S. Department of Health and Human Services, 2000). Although science based curricular approaches such as ScienceStart! have been shown to accomplish this goal (French Conezio, & Boynton, 2000; French 2004), many teachers and early childhood programs are reluctant to completely abandon their current curriculum in favor of such an approach.

The current study investigates the effectiveness of an alternate approach, The Early Childhood Hands-On Science (ECHOS) program. ECHOS is a science-based curriculum supplement intended to facilitate the acquisition of science skills while integrating skill learning in the other school readiness domains as well. Nine Head Start teachers were trained to utilize ECHOS as a means of integrating the eight mandated Head Start school readiness domains around classroom science activities. The control group included 12 teachers matched on education level chosen from the same centers or a center in close proximity to the participating ECHOS teachers' centers. Beginning to end of year progress as well as year end school readiness abilities were compared between 126 children whose teachers implemented ECHOS in the classroom and 250 children in control classrooms where such activities were not used to enhance the daily curricular activities. Student progress was continuously measured through a comprehensive research-based electronic school readiness assessment system (Galileo System for the Electronic Management of Learning; Bergan, Bergan, Rattee, & Feld, 2003), which provides item response theory-based developmental level scores for all 8 Head Start school readiness domains.

MANOVA analyses were used to compare the developmental scores of the two groups of students at the beginning and end of the school year. At the beginning of the year the two groups were not significantly different. End-of-year scores were significantly different ( $p < .001$ ), with students in the ECHOS classrooms scoring higher than those in the control classrooms on all eight school readiness domains. The ECHOS group also had a significantly higher average change in scores from the beginning to the end of the year on all eight school readiness domains ( $p < .001$ ).

The current poster presents promising data from this approach of adding integrated science based activities to existing curriculum. In addition to presenting these data, the poster highlights strengths and weaknesses of this approach along with examples of the science activities and how they can be used to integrate other readiness domain skills.

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## **Implementing a New Curriculum: What is the Impact of Contextual Factors?**

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The Children's School Success (CSS) Project is a five-year research study designed to evaluate a comprehensive curriculum that prepares young children from low-income families, children with disabilities and English Language Learners for success in school. CSS usually differs from the current curriculum used in these classrooms so we developed a model of staff training based on principles of change and implementation (Fullan, 1991; Le Fevre and Richardson, 2000). In this poster we describe the staff development model; and, using a cross-site study analysis, examine factors that affect teachers' implementation of the curriculum.

The staff training model has the following components: 1) collaboration with teaching teams; b) initial training on the curriculum, and c) ongoing consultation and monitoring. To examine the factors that affect teachers' implementation of the curriculum, we ask the following research questions:

1. Do teachers implement the curriculum with a high level of fidelity?
2. What is the relationship between teachers' beliefs, previous practices, and teachers' implementation of the curriculum?
3. What additional factors (e.g., relationships with administrators, other classroom staff and teachers) affect teachers' implementation of the curriculum?

Data are analyzed using cross-site study analysis. To develop the classroom case studies, investigators conduct observations in the classrooms. Observations are documented in field notes. Teachers are interviewed four times during the implementation year. Using a standard qualitative analysis, investigators at each site examine data and identify units that inform the question of implementation. Case studies are developed from this analysis. Case studies are then shared across sites, and common themes are identified, as well as sources for where themes are supported through the data (Miles & Huberman, 1994). Member checks are done with key community partner informants. Additionally, we assess teachers' fidelity of implementation of the curriculum using a set of standardized rating forms. In this poster, we discuss the high implementers and low implementers of the curriculum, as well as the contextual variables that may be related to degree of implementation.

At each of the five regional sites, we identified teachers as high or low implementers. Of the 15 teachers who were trained in CSS during the first year, there were five high implementers and five low implementers across the sites. There were 10 themes that we identified as influencing the implementation of the CSS curriculum:

### **Curriculum**

1. Match with previous curriculum?
2. Structure – CSS is structured, did this differ from previous years?
3. Quality of implementation –teacher understands concepts?

4. Integration of the curriculum – lessons extended throughout the day?
5. Individualization for diverse learners

#### Teacher

1. Partner in CSS development – feedback to the site supervisor about CSS?
2. Commitment to CSS – Teacher volunteered, but how willing was the teacher to implement CSS?
3. Attitude toward the administration – Did feelings about administration affect CSS implementation?

#### Class

1. Adult relationships – how did the adults work together in the classroom?

#### Administration

1. Support for CSS – how strong was the administration's support for CSS?

Additional data to describe these themes and support outcomes is presented in the poster.

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## **Understanding the Implementation of Evidence-Based Practices in the Head Start Setting: The Role of Individual and Classroom Factors**

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Head Start has been referred to as the nation's "premier" federally sponsored early childhood education program (USDHHS, 2001). The majority of Head Start programs in the nation use either the High/Scope curriculum (Weikart & Schweinhart, 1997) or the Creative Curriculum for Preschool (Dodge, Colker, & Heroman, 2002) both of which originated before the contemporary consensus had emerged regarding the core developmental skills that facilitate early reading success, and before strategies for facilitating social-emotional competencies had been empirically evaluated in preschool settings. Consequently, Head Start programs typically provide an environment that facilitates children's general cognitive growth and socialization, but do not consistently implement specific activities now known to promote the important cognitive, linguistic, and social-emotional skills critical to school readiness.

As a result of recent advances in the field of educational prevention science, particularly in the theory, design, and evaluation of strategies to improve these critical school readiness skills in young children, early childhood policymakers have called for the application of research-based practices to efforts to strengthen Head Start (USDHHS, 2003). As the use of evidence-based programs becomes common practice in early childhood settings like Head Start, research on implementation is critical. An important first step is to understand the characteristics of interventions that are more likely to be implemented effectively and to identify the factors in naturalistic settings that support or undermine the implementation process.

The primary goal of the Head Start REDI (Research-based, Developmentally-informed) project, a randomized-control trial, is to foster the diffusion of "cutting edge" research-based practice into existing Head Start programs and to determine the impact of the intervention on child school readiness and adjustment through curriculum components and teaching strategies targeting the promotion of cognitive development (language and emergent literacy skills) and social-emotional development (prosocial skills, emotional understanding, and self-regulation). Teachers and assistants deliver the intervention with training and support from coaches on the implementation and integration of the curriculum components. The purpose of this poster is to evaluate the quality of implementation in the REDI randomized trial and to explore what factors contribute to variability in the quality of implementation.

Data were drawn from the teacher and REDI trainer ratings from two cohorts of intervention classrooms (N=22) that participated in the REDI intervention (n=49; 53% lead and 47% assistant teachers). Lead teachers had higher education compared to assistant teachers and a majority had additional certification whereas most assistants had high school diploma, CDA, or some college education. Overall, trainers rated sensitivity/responsiveness and classroom management higher ( $M=3.68, 3.45$ ) compared to language coaching and induction strategies ( $M=3.06, 3.09$ ). There were no significant differences between lead and assistant teachers' implementation ratings suggesting that REDI intervention, training, and support model are strong enough to facilitate



high quality implementation regardless of staff education and training. Further analyses will be conducted to examine the relationship among the different measures and between the two sources of information (teachers and trainers). Finally, the relationship between staff characteristics and implementation quality will be explored.

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**Multifaceted Evaluation of a Literacy Curriculum During the First Year of an Early Reading First Project**

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*(Summary not available)*

## **Effectiveness of a Preschool Curriculum When Implemented in a School District**

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*(Summary not available)*